

ABSTRACT

NONVOLATILE SEMICONDUCTOR STORAGE ELEMENT AND ASSOCIATED PRODUCTION AND CONTROL METHOD

The invention relates to a nonvolatile semiconductor storage element and an associated production and control method, the storage element includes a semiconductor substrate having a source region, a drain region and an intermediate channel region. On a first portion of the channel region, a control layer is formed and insulated from the channel region by a first insulating layer whereas respective charge storage layers are formed in a second portion of the channel region and are insulated from the channel region by a second insulating layer. On the charge storage layer, a programming layer is formed and insulated from the charge storage layer by a third insulating layer and is electrically connected to a respective source region and drain region via a respective interconnect layer.